Ukraine market analysis for effective WFP interventions

Demand and supply balances in key food categories – summary report

July 2022

Objectives

The overall objective of the report is to provide a quantitative and qualitative estimate of the supply and demand balances in the key food categories in Ukraine. An evaluation of the food demand and supply helps determine some food consumption patterns in Ukraine: products that underconsumed and products that overconsumed.

Executive summary

- Ukraine is a net exporter of the key food products, such as wheat, poultry, eggs, sunflower oil, corn, etc. The sea ports blockade leads to the situation when domestic supply of these products exceeds local demand with a large margin. This also keeps the prices of these products low inside Ukraine.
- People in Ukraine are used to cultivate land and run their own households. A lot of food products are locally grown there. Examples of these products are potato, vegetables, poultry, etc. They are consumed in quantities substantially exceeding the government recommendations for consumption because of their affordability and availability.
- The domestic supply of dairy products, meat and sugar is generally capable of meeting the demand. No supply/demand imbalances are observed.
- There are only a few food categories where Ukrainians consume less than the recommended minimum. These are fish and fish products along with fruits. Both these categories rely on import and their prices have increased dramatically. Low consumption is due to the high prices, not to limited availability.

Data and methodology

The balances were calculated for the following food categories that account for the vast majority of key food products consumed in Ukraine:

- Potato
- Vegetables
- Fruits
- Wheat and products from wheat
- Milk and dairy products
- Meat (including poultry and pork)
- Eggs

- Fish and fish products
- Cereals (including buckwheat, rice, and oats)
- Sunflower oil
- Sugar
- Salt

The balances were calculated for 2021 and 2022 to better reflect on the changes of food demand and supply since the war began.

The calculations of the balances have two aspects: food demand and food supply.

Food demand is calculated based on the following inputs for **2021**:

1) The official estimation of Ukrainian population in 2021 published by the State Statistics Service of Ukraine split by the age cohorts: children up to 6 y.o.; children 6-18 y.o.; working age people 18-65 y.o.; people over 65 y.o.
2) The minimal subsistence basket of the food products defined by the government for each of the above-mentioned cohorts.

The food demand is calculated by each of the food category as:

Demand of a food product according to government subsistence minimum kg/year) * (population).

As the result total demand for the product is calculated.

Important note: the calculated demand is determined by the recommended minimal subsistence basket and may not reflect actual consumption in Ukraine. However, in case the actual consumption is below the minimal recommended level, it is a sign that consumption in the category is low.

The food demand for 2022 is calculated similarly to 2021 with one difference:

1) The estimation of the population for 2022 calculations is based on the number of the unique active cell phone connections to Ukrainian mobile networks. The obtained population estimate shows only people who are actually located on unoccupied territories of the country.

The food supply for **2021**:

The food supply for 2021 is calculated based on official statistics of production, import and export of the specific food categories. Total supply is calculated as: (Production) + (Import) – (Export).

The food supply for **2022**:

The food supply for 2022 is calculated based on expert estimates of production volume in 2022 compared to 2021 obtained from interviews with 13 key associations of food producers and processors of Ukraine.

The import and export for 2022 are linear extrapolations of the import/export figures of Jan-Jun 2022. The total supply is calculated as (Production) + (Import) – (Export)

Below are presented the key takeaways for each section. Detailed information on each section is presented in Annex 1 to this document

Key takeaways by categories:

1. Potato

Potato is the most commonly consumed products in Ukraine. 95%+ of all potato is grown by households and consumed locally. All regions of Ukraine are suitable for growing potato. The regions with the largest production of potato include Kyiv, Zhytomyr, Vynnytsia, and Lviv oblasts. The local production in any region is sufficient or nearly sufficient to satisfy the local demand.

In 2021 the consumption of a potato was way higher than the minimal recommended amount. The total supply was 21.4 million tons compared to the subsistence minimum consumption of 4 million tons. Excess supply was used for higher consumption and animal feeding.

In 2022 the situation did not change dramatically. Total supply decreased to 17.7 million tons. At the same time demand calculated by the subsistence minimum was only 3.4 million tons in 2022. Thus, there is still very substantial surplus of potato and this product will be definitely used to replace products which are harder to afford in the current situation (rice, buckwheat and other imported cereals).

2. Vegetables

The situation with vegetables is very similar to that of potato. Basic vegetables, such as carrot, cabbage, beetroot, onion, pepper, cucumber, tomatoes, etc. are grown throughout the country in sufficient amounts for the local consumption. The largest share of production are accounted for by households. There are some notable nuances that differentiate vegetables from potato: currently occupied Kherson oblast was the largest producer of vegetables in 2021. Most of these vegetables were early vegetables. In 2022 these early vegetables were not available in Ukraine and caused the price spike seen in May-June 2022. Other notable vegetable producers are Lviv, Kyiv, Dnipro, and Mykolaiv oblasts.

There was quite a large excess supply of vegetables in Ukraine in 2021: supply of 9.9 million tons compared with the recommended demand of 3.7 million tones. The import was almost non-present

In 2022 supply decreased to 7.4 million tons, with 0.3 million tons now account for the import. The minimal recommended demand for vegetables is 3.1 million tons in 2022. The excess supply is still present and used for the higher consumption, processing and animal feeding.

3. Fruits

Fruits in Ukraine have two large unequal groups: the locally grown fruits and the imported fruits. In 2021 the locally grown fruits accounted for 2.2 million tons and the import was 0.47 million tons. Consumption was lower than the recommended subsistence minimum with the consumption gap of about 7%.

In 2022 both the local production and the import declined to 1.9 (minus 13,7%) and 0.3 (minus 36,2%) million tons respectively. The evaluated recommended demand declined to 2.5 million tons. Thus, the consumption gap increased to 11%. This suggests that Ukrainians had shifted consumption patterns from the more expensive fruits to the less expensive vegetables.

4. Wheat and wheat products

Ukraine is one of the largest exporters of wheat in Europe. Since the beginning of the war the export of wheat was restricted, as there was no possibility of sea transportation. Thus, the very large quantity of wheat has been accumulating in storages.

In 2021 production of wheat exceeded demand greatly even taken into account the wheat export. Wheat export was 18.6 million tons and locally consumed production was about 13.5 million tons. At the same time the minimum recommended level of the wheat-based product consumption was only 4.4 million tons. So, the actual consumption was about 3 times higher than the minimal recommended amount.

In 2022 the wheat export is expected to decrease to less than 9 million tons. The consumption of the locally produced wheat is expected to decline to 10.5 million tons, which is still very much higher than the recommended minimal demand of 3.7 million tons.

At the same time there is a gap in bread and the other wheat products consumption when comparing recommended consumption to production. This could indicate that Ukrainians use wheat flour to produce wheat products by themselves instead of buying them at grocery stores.

5. Milk and dairy products

The milk and dairy products production are concentrated predominantly in the Western regions of Ukraine that are not directly affected by the war. Vynnytysa, Rivne, Zhytomyr, Lviv and other neighboring oblasts contribute to the vast majority of milk produced. Milk processing capabilities are also largely intact, so Ukraine is capable of satisfying the local demand.

In 2021 production and consumption of milk and dairy products was balanced with 5.9 million tones of supply and 5.9 million tons of demand according to the recommended minimal level.

In 2022 both supply and demand declined. Supply declined a little bit more compared to demand creating about 2% supply gap. The gap is not too substantial and can be filled in by both local production and import.

6. Poultry

Ukraine is one of the large European producers of the poultry with substantial export potential. Production of poultry is concentrated in 3 regions: Vynnytsia, Cherkasy, and Dnipro oblasts, which are not directly affected by the war (as of July'2022). Chicken is the cheapest meat available on the market, so it is actively used to replace pork, beef and other red meat.

In 2021 Ukrainians consumed about 1.28 million tons of poultry with the recommended minimal demand evaluated at about 0.43 million tons. An additional 0.3 million tons were exported.

In 2022 the local production declined by only a couple percent while export remained at the level of about 0.3 million tons. The demand declined to 0.37 million tons due to decrease in population. Poultry production are likely to remain relatively abundant providing lion share of meat consumed by Ukrainians. Due to the war poultry (and other meat) producers even gained some benefits, such as lower price for grain used as animal feed.

7. Pork

Pork is the most popular source of red meat in Ukraine, as it is substantially cheaper than beef and other red meat sources. Production of pork is not spread throughout Ukraine evenly with largest producers located in Donetsk, Kyiv, and Poltava regions. Although production facilities in Donetsk region were damaged, remaining capacity is sufficient to meet the demand in Ukraine.

In 2021 the consumption of pork exceeded the recommended minimal level: the total supply of 0.62 million tons compared to the demand of 0.37 million tons.

In 2022 the locally consumed production is estimated to be 0.58 million tons. Estimations of the recommended minimum demand in 2022 are 0.3 million tons. Thus, the actual consumption of pork is about two times higher than the recommended minimum level.

8. Eggs

Production of eggs is very unevenly distributed throughout Ukraine. The largest egg production facilities are located in the Kyiv region. Similarly to poultry, Ukrainian production capacities exceed the local demand and substantial amount of eggs are exported.

In 2021 the local supply and demand were largely balanced with 4.5 billion eggs exported and 9.6 billion eggs consumed in Ukraine. Estimations of the recommended minimal demand were 9.3 million in 2021.

In 2022 capabilities of the egg export in Ukraine were limited. Estimated export in 2022 is 1.9 billion pcs, and the local consumption is about 9.36 billion pcs. The recommended minimal demand is evaluated at 7.9 billion pcs, which creates more than 1 billion pcs of the excess supply.

9. Fish and fish products

Despite the fact that Ukraine has access to the seas and large number of rivers and lakes, most of the fish and fish products are imported. Taken into account that the price of the imported products is substantially higher compared to locally grown/produced, there has been a consumption gap: Ukrainians consumed less fish and fish products than the recommended minimum level. The gap was over 10% in 2021. To some extent this gap was filled by local fishing, but mostly fish was replaced by meat, poultry and other products.

In 2022 the situation did not improve. Availability and product range of fish products in retail stores went down, while prices increased dramatically. As the result, fish consumption plummeted. The consumption gap in 2022 is estimated to be around 38% meaning that Ukrainians will consume less than 2/3 of the recommended minimum level. Fish is the only category of products where the actual consumption is substantially lower than it is recommended.

10. Cereals

Ukraine is capable of satisfying local demand in cereals. All widely consumed cereals except for rice can be grown locally. Although there are some more favorable locations for growing specific cereals, in general they are grown throughout the country.

The analysis contains three most widely consumed cereals in the country: buckwheat, rice and oats.

Buckwheat is the only cereal where the demand substantially exceeds the supply. Ukraine used to import about 30% of its consumption from Russia and Kazakhstan before the war. In 2022 it is impossible to import anything from these countries. Since buckwheat is not widely grown in other countries, it is difficult to replace this volume of import. Moreover, the war affected the supply of buckwheat, decreasing it from 106 thousand tons to 59 thousand tons. As the result, the price for buckwheat skyrocketed. However, the situation should become better at the end of 2022 when the local production of buckwheat is expected to catch up with demand. As for 2022, buckwheat supply is below the recommended minimum demand level. However, buckwheat can be replaced by the other cereals

Rice in Ukraine is both locally grown (in Kherson and Odesa oblasts) and imported. In 2022 share of the imported rice increased substantially, as local production was interrupted by to the war. At the same time, there is no limitation of the import, except price. As exchange rate and transportation costs increased prices significantly increased as well.

Oats is a widely cultivated crop in Ukraine used for both food production and animal feeding. Its production in Ukraine exceeds the recommended minimal level over 10 times in both 2021 and 2022.

Oats as well as millet and corn can partially replace buckwheat and rice in the diet.

11. Vegetable (sunflower) oil

Ukraine is among the top exporters of sunflower oil in the world. The areas of the most active sunflower seed growth (Dnipro, Kropyvnytskyi and Kharkiv oblasts) were partially affected by the war. The expected production of sunflower oil is expected to decline from 6.4 million tons in 2021 to 4.2 million tons in 2022. At the same time local demand is only about 0.2 million tons, which is easily covered by local producers under any scenario.

12. Sugar

Sugar in Ukraine is predominantly produced from locally grown sugar beet. The largest share of sugar beets is grown in Vynnytsia and Rivne oblasts, which are not directly affected by fighting. In 2021 sugar production and the recommended minimal consumption level were roughly equal with some amount of sugar being exported. In 2022 the sugar production declined and export became virtually non-existent. As the result, the local production is aligned with the recommended minimal consumption level – 1.1 million tons.

13. Salt

The majority of salt in Ukraine used to produce at “Artemsil” – the company with production facilities in the Donetsk region. The plant was shut down at the end of April’2022 due to the hostilities. The volume of salt produced by Artemsil was replaced by imported salt. In June 2022 the alone salt import totaled 61 thousand tons with the estimated recommended minimal consumption level 260 thousand tons per year.